

REMARKS

Reconsideration and removal of the grounds for rejection are respectfully requested. Claims 1-18, and 20-29 were in the application, claims 1, 4, and 10 have been amended, and claims 2, 3, 5, 13, and 25 has been cancelled. Claims 18, 20, 21 and 24 are allowed.

Claim 1 has been amended to state that the selecting means have a tapered section, having shutters hinged thereto for removing items stopped in the tapered section, as described in the specification: "The tapered inlet section (30a) and the related shutters (3) constitute together selecting means (6) which are to remove the non-calibrated articles (20) before they are delivered to the first channel (30), and to send them to a collecting container (8)." (P. 6, last paragraph).

Claim 4 has been placed in independent form to cover the tubular selection means embodiment of the applicants invention.

The inlet section 30a of the first channel (30) has a gradually decreasing cross section in the feeding direction of the articles, with the narrower cross section matching the nominal section of the feeding channels (30), to allow only of size-matching articles. Articles with bigger dimensions are stopped in the inlet tapered section (30a), with the series of shutters (6) connected to corresponding inlet sections to remove the size-non-matching articles. The shutters do not stop the articles, they serve only, when activated, to remove articles stopped in the tapered inlet sections.

In the claim 4 embodiment, the tubular portions swing downwardly to remove the size matching articles.

Claims 10-17, 26-29 were rejected under 35 USC 102(b) as being anticipated by Satake et al., U.S. Patent no. 5,917,927.

To find anticipation, each and every element of the claim must be found in a single prior art reference. W.L. Gore & Associates, Inc. v. Garlock, Inc., 220, U.S.P.Q. 303 (Fed. Cir. 1983). Further, the reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the art in possession of the invention. In re Spada,

15 U.S.P.Q.2d 1655 (Fed. Cir. 1990). An anticipatory reference must be enabling, containing adequate descriptions for practicing the applicant's invention. Akzo N.V. v. Intn'l Trade Comm., 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986).

A finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device. *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1544-45, 24 U.S.P.Q.2D (BNA) 1133, 1136 (Fed. Cir. 1992); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2D (BNA) 1913, 1920 (Fed. Cir. 1989); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894, 221 U.S.P.Q. (BNA) 669, 673 (Fed. Cir. 1984). *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1349 (Fed. Cir., 1998)

Claim 10 has been amended to include that the selecting means include the tapered inlet section, with the shutter opened to discharge articles stopped therein.

No such structures are found in Satake. The shape of troughs (49) in the plates (47) and (48) and the shape of troughs (30) in the tray (31) of Satake are not tapered sections of a selecting means, as used in the present invention:

"The shapes of the troughs (49) in the plates (47) and (48) are preferably designed to be conducive to transporting the grains at a reasonable speed and conducive to singulation and alignment of the grains in the troughs as the grains are being transported and before the grains are fed onto the troughs (30) in the tray (31), which hold the grains in a stable position, so that as the tray moves, the grains are moved into (first moving vibratory direction of the tray) and out (second moving vibratory direction of the tray) of the field of the view of the light sensing system." (col. 4, l. 54-63).

The shape of troughs (49) in the plates hold the grains for transporting in a particular orientation, the troughs are not tapered, having a decreasing cross section in the advancement direction of the grains. The troughs do not stop and block the articles. Consequently there can be no anticipation of claim 10, and claims 10-12 and 14-17 are patentable thereover.

Claims 1-2, 4, 6-9, 22-23 were rejected under 35 USC 103(a) as being unpatentable (obvious) over Satake.

To uphold a finding of obviousness, there must be some teaching suggestion or incentive for doing what the applicant has done. In Satake, there is no teaching or suggestion to provide selection means having a tapered section with a decreasing cross section allowing the passage of "size-matching-articles" and stopping the passage of "size-non-matching-articles".

The alleged selection element of Satake, grain-removal assembly 32, is not a selection means and an item is allowed to pass thereunder even if it is too large, misaligned, etc:

"The grains are transported along the top plate (47) of the first-stage vibratory conveyance mechanism and tend to spread evenly and singulated in the troughs. The grains are conveyed to the end of this top plate (47) and fall onto the inclined surface of top plate (48) and off the end onto the underlying tray (31) that is in close proximity to this end of the top plate. As the tray forwards, it is thereby loaded with grains in a controlled manner and the grains are substantially singulated in the troughs of the tray on the tray's top surface. The feed mechanism (27) and the vibratory conveyance mechanism (29) functioning is halted when the end of the tray (31) nears the end of the second-stage top plate (48) that feeds the tray (otherwise the grains further fed will fall down). As the tray travels forward, the machine vision system acquires the data and the data is processed. When the tray reaches the end of its travel, the entire tray and the grains thereon have passed through the field of view of the light-sensing system. The end of the tray's travel is sensed and the direction of its travel reversed. The tray moves in the reverse direction and the sweeper system functions to position the fingers (56) into the troughs (30) to stop the grains' movement with the tray (31), and the grains are swept along the surface of the tray as the tray travels in the reverse direction. The grains are discharged through opening (57) from the tray through chute (33) into a collection hopper" (Column 15, lines 2-36)

The sweeper allows free passage of all size grains in the underlying troughs of the tray, when the tray moves in the forward direction, and is only used to impede the movement of the grains when the tray moves in the backward direction, to clean the trays

for another test run.

There are no teachings or suggestions for using a tapered section to stop and block only articles whose dimension is bigger than a nominal dimension during the forward movement of the tray. In fact, in Satake apparatus it is not possible to stop or block articles underneath the sweeper during the forward movement of the tray.

Consequently, claims 1, 4, 6-9, and 22-23 are not rendered obvious by Satake.

Claims 3, 5, 18, 20, 21 and 25 were rejected under 35 USC 103(a) as being obvious over Satake in view of Soloman. Claims 18, 20 and 21 were allowed, claim 3 cancelled, with the limitation incorporated into claim 1, and so the discussion of claim 1 above is incorporated herein.

While the Examiner alleged that Soloman teaches a tapered tubular guide in a vibratory feeder for discriminating between uneven size of articles, using an actuating hinged shutter/deflector operated by a pneumatic cylinder or rotating inner guide leg for making a selection, that is not correct.

With reference to figure 8, a delivery chute (48) is located at the opening (44) of the discharge station and is directed to deposit objects (16) into a container (50). The system (10) has a deflector (54) for deflecting objects back into hopper (20), to stop the filling operation.(col. 5, l. 30-34) The deflector (54) includes a plate (64) hinged at pin (66) against wall (38) or wall (38) may include a recess or cutout for receiving plate (64) so as to form an uninterrupted surface plate (64) is in its non-deflecting position.

Note that the shutter of the applicants' invention does not interrupt the flow of articles, it merely provides a means for removal of items caught within the tapered section of the selection means.

The shape of the tubular guide, defined by the upper edge (28), the guide wall (38) and the delivery chute (48), and the deflector (54) of Soloman are not equivalent to the tapered selecting means and of the shutters of the present invention.

In Soloman, the article conveying means from the hopper to the container are constituted by the upper end of the disc, onto which the articles slide, by the guide wall,

against with the articles are pushed by centrifugal force, and by the delivery chute, which receives the articles through the discharge opening (44) situated between the two free ends of the guide wall (38).

In Soloman, articles do not pass through a tapered section with a decreasing cross section with the narrower cross section matching the nominal dimension of "size-matching articles" which allow the passage of the "size-matching-articles" while stop the "non-size-matching-articles".

Soloman conveys objects in single line from the hopper to the container, through the means of the upper edge of the disc, the guide wall, the discharge opening, and the delivery chute.

The form of the upper edge, of the guide wall and of the delivery chute is to conducive to allow the conveying of the articles to avoid a blockage and stopping of the articles.

In Soloman, there are no teachings nor suggestions for stopping or blocking the articles by a tapered section provided between the upper edge and the guide wall, in correspondence to a discharge opening.

On the contrary, there is the opposite suggestion: "the invention, however, may be broadly practiced by having the width of upper edge of a larger size to accommodate more than a single line of objects." (col. 3, l. 41-44) This teaches away from a tapered inlet section to stop and block "size-non-matching-articles".

Soloman teaches a deflector (54) for deflecting objects back into hopper (20). "Deflector (54) would be actuated whenever it is desired to stop the flow of objects from passing through the discharge opening (44)" (Col. 5. l. 15-21, 29-31).

The deflector of Soloman in its normal position constitutes a part of the guide wall. In this position, all kinds of the articles are allowed to pass through the discharge opening.

In the present invention, the shutters in their normal position also constitute a part of the tapered section of the selecting means but the "size-non-matching-articles" are not allowed to pass through the tapered sections.

The deflector of Soloman, when activated, stops the conveying of articles through the

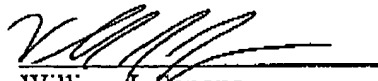
discharge opening; so, no articles are conveyed within the delivery chute and to the container.

In the present invention, the shutters, when activated, allow the removal of "size-non-matching-articles" from the tapered sections and so allow restoring the normal flow condition inside the channels and the feeding of articles to the main hopper.

The combination of Satake with Soloman does not teach or suggest the applicants' invention to one skilled in the art, since neither even mentions a means for making a selection between articles fed to a hopper. Consequently, claims 3, 5 and 25 are not rendered obvious by the proposed combination.

Based on the above amendment and remarks, favorable consideration and allowance of the application are respectfully requested. However should the examiner believe that direct contact with the applicant's attorney would advance the prosecution of the application, the examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,


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